REMARKS

I. INTRODUCTION

Claims 1, 5-11 and 15 have been amended. Claims 2 and 3 have been cancelled. No new matter has been added. Thus, claims 1 and 4-15 are pending in the present application. In view of the above amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable.

II. THE 35 U.S.C. § 101 REJECTIONS SHOULD BE WITHDRAWN

Claims 1-15 stand rejected under 35 U.S.C. § 101 for being directed toward non-statutory subject matter. (See 10/16/08 Office Action, p. 2).

Applicants direct the Examiner's attention to the recent Federal Circuit opinion In re Bilski (hereinafter "Bilski"). (See In re Bilski, Appeal No. 2007-1130, Fed. Cir. Oct. 30, 2008). Specifically, Applicants direct the Examiner's attention to the following excerpt from the Bilski opinion:

> The Supreme Court, however, has enunciated a definitive test to determine whether a process claim is tailored narrowly enough to encompass only a particular application of a fundamental principle rather than to pre-empt the principle itself. A claimed process is surely patent-eligible under § 101 if: **(1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.**

(See Bilski). (Emphasis added).

With respect to independent claim 6 that recites a "computer readable storage medium" and independent claim 11 that recites a "processor," Applicant respectfully submits that these claims are clearly "tied to a particular machine or apparatus" and therefore are allowable, including their respective dependent claims.

With respect to claim 1, the Applicant further directs the Examiner's attention to the following portion of Bilski:

> **We hold that the Applicants' process as claimed does not transform any article to a different state or thing. Purported transformations or manipulations simply of public or private legal obligations or relationships, business risks, or other such abstractions cannot meet the test because they**

> **are not physical objects or substances,** ***and they are not representative of physical objects or substances***. Applicants' process at most incorporates only such ineligible transformations. See Appellants' Br. at 11 ("[The claimed process] transforms the relationships between the commodity provider, the consumers and market participants..."). As discussed earlier, the process as claimed encompasses the exchange of only options, which are simply legal rights to purchase some commodity at a given price in a given time period. See J.A. at 86-87. The claim only refers to "transactions" involving the exchange of these legal rights at a "fixed rate corresponding to a risk position." See 892 application cl.1. **Thus, claim 1 does not involve the transformation of any physical object or substance,** ***or an electronic signal representative of any physical object or substance***. Given its admitted failure to meet the machine implementation part of the test as well, the claim entirely fails the machine-or-transformation test and is not drawn to patent-eligible subject matter.
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> (See Bilski). (Emphasis added).

Claim 1 recites "generating a mapping table containing the phrase and its corresponding semantic tag." One skilled in the art would understand that a mapping table is an electronic signal representative of a physical object, namely, the mapping table. Accordingly, the process of transforming this electronic signal representative of a physical mapping table would clearly fit within the Federal Circuit's description of patent-eligible subject matter, as detailed in the Bilski opinion. Therefore, claim 1 performs a transformation of electronic signal representative of subject matter (e.g., a mapping table). Thus, Applicants respectfully submit that the rejection of claim 1 should be withdrawn. As claims 4 and 5 depend from, and therefore include all the limitations of claim 1, it is hereby submitted that these claims are also allowable.

III. THE 35 U.S.C. § 103(a) REJECTIONS SHOULD BE WITHDRAWN

Claims 1-15 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent Publication No. 2002/0169596 to Brill et al. (hereinafter "Brill") in view of U.S. Patent No. 5,537,317 to Schabes et al. (hereinafter "Schabes"). (See 10/16/08 Office Action, p. 5).

Claim 1 recites, "calculating a probability that the phrase is mapped to a semantic tag from a list of unordered semantic tags." The Examiner asserts that the above recitation of claim 1 is taught by the combination of Brill and Schabes. (See 10/16/08 Office Action p. 5). Applicant respectfully disagrees.

Brill teaches that sentences from different corpuses are aligned such that the sentence or group of sentences that convey the same meaning are aligned together. (See Brill par. [0024). A natural language processing unit includes a syntactic parser and a semantic interpreter. The syntactic parser and the semantic interpreter are controlled by a specification that defines the input/output mappings of the components. For example, the semantic interpreter specification produces a meaning set for various input semantic structures. (See Brill par. [0025]). The specifications are adjusted through unsupervised training by generating and testing candidate learning sets or other various unsupervised training techniques. (See Brill par. [0028]). Brill, however, does not "calculate[e] the probability that the phrase is mapped to a semantic tag from a list of unordered semantic tags," as recited in claim 1. While Brill does incorporate the use of a semantic interpreter, Brill does not teach the use of "unordered semantic tags." The semantic interpreter is used to create a meaning set, which represents the meaning of a string of characters. (See Brill par. [0001]). Two meaning sets from different languages are compared to each other to form a score for the candidate learning set. (See Brill par. [0006]). Brill only teaches the use of a semantic interpreter and not the use of "semantic tags." Schabes does not cure this deficiency of Brill.

Furthermore, while the Examiner is correct in stating that Brill does not teach the use of mapping probabilities, the Examiner is incorrect in applying the usage of probability from Schabes with Brill. Brill uses natural language processing units to produce a baseline meaning

set for each language. (See Brill par. 0030]). These meaning sets are then compared to one another using a distance score. The score is generated using a distance score of each sentence in the meaning set. (See Brill par. [0031]). A similarity function is used to provide some measure of the similarity between the meaning of two sentences from each meaning set. (See Brill par. [0032]). As one skilled in the art understands, however, a similarity score is not the same as a probability score. Brill does not seek to determine the probability that two sentences match but to determine whether two sentences are similar. The incorporation of probability is incorrect since the determination being made in Brill cannot be made using a probability score. Brill requires a distance score to determine the average distance score over an entire meaning set. This score can then be compared to a learning set to determine if a new set should be used. This is not a function that can be provided from the use of probability, as probability only measures likelihood and is not a measurement of whether one thing is better or worse than another. Therefore, Applicant submits that the combination of Schabes with Brill is incorrect. Thus, Applicant submits that claim 1 is patentable over the combination of Brill and Schabes. Because claims 4 and 5 depend from, and therefore include all the limitations of claim 1, it is respectfully submitted that these claims are also allowable for at least the same reasons given above with respect to claim 1.

Independent claim 6 recites, "calculating a mapping probability that a semantic tag of a set of unordered candidate semantic tags is assigned to a phrase, wherein the calculation of the mapping probability is performed by means of a statistical procedure based on a set of phrases constituting a corpus of sentences, each of the phrases having assigned a set of candidate semantic tags." Applicant submits that this claim is also allowable for at least the same reasons stated above with respect to claim 1. Because claims 7-10 depend from, and therefore include all the limitations of claim 6, it is respectfully submitted that these claims are also allowable for at least the same reasons given above with respect to claim 6.

Independent claim 11 recites, "a processor for calculating a mapping probability that a semantic tag of a set of candidate semantic tags is assigned to a phrase, wherein the calculation of the mapping probability is performed by means of a statistical procedure based on a set of

phrases constituting a corpus of sentences, each of the phrases having assigned a set of candidate semantic tags." Because claims 12-15 depend from, and therefore include all the limitations of claim 11, it is respectfully submitted that these claims are also allowable for at least the same reasons given above with respect to claim 11."

CONCLUSION

In light of the foregoing, Applicants respectfully submit that all of the now pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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